

SDMS# 31360

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Region 9

In The Matter Of: )  
Beazer East, Inc., and )  
Koppers Industries, Inc., )  
Respondents. ) U.S. EPA  
Docket No. 90-25  
Proceeding Under Section 106(a) of )  
the Comprehensive Environmental )  
Response, Compensation, and )  
Liability Act of 1980, as amended )  
(42 U.S.C. § 9606(a)) )

ADMINISTRATIVE ORDER  
FOR REMEDIAL DESIGN AND REMEDIAL ACTION

I. INTRODUCTION AND JURISDICTION

This Order directs Respondents Beazer East, Inc. ("Beazer"), and Koppers Industries, Inc. ("Koppers"), to perform a remedial design for the remedy described in the Record of Decision for the Koppers Superfund Site in Oroville, California, issued April 4, 1990, and to implement that design through remedial action. The United States Environmental Protection Agency ("EPA") issues this Order to Respondents under the authority vested in the President of the United States by Sections 104(e) and 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended ("CERCLA"), 42 U.S.C. Sections 9604(e) and 9606(a). This authority was delegated to the Administrator of EPA on January 23, 1987, by Executive Order 12580 (52 Fed.

1 Reg. 2926, January 29, 1987), redelegated to EPA Regional Ad-  
2 ministrators on September 13, 1987, by EPA Delegation No. 14-14-  
3 B, and was further delegated to the Director, Hazardous Waste  
4 Management Division, EPA Region 9 by Order R1290.43, dated  
5 October 26, 1988.

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## II. FINDINGS OF FACT

8 1. The Koppers Site, as defined in Section VI(17) below,  
9 encompasses approximately 3 square miles of Butte County just  
10 south of the city limits of Oroville, California . The Property,  
11 as defined in Section VI(11) below, occupies the northern portion  
12 of the Site and comprises a 200-acre operating wood treating  
13 plant. The Property has had a lumber mill and then a wood treat-  
14 ing plant from approximately 1920 to the present. Koppers Com-  
15 pany, Inc., acquired the Property in the mid-1950's and expanded  
16 wood treating operations.

17 2. Koppers Industries, Inc., is the current owner and  
18 operator of the Property and the wood treatment facility located  
19 thereon. The previous Property owner and facility operator was  
20 Koppers Company, Inc. As of June 30, 1988, BNS Acquisitions,  
21 Inc. ("BNS Acquisitions"), a Delaware corporation and an indirect  
22 wholly-owned subsidiary of Beazer PLC, acquired indirectly more  
23 than ninety percent of the outstanding common stock of Koppers  
24 Company, Inc. On November 14, 1988, BNS Acquisitions acquired  
25 indirectly the balance of the common shares. The Tar and Wood  
26 Products section of Koppers Company, Inc., including the Oroville

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1 Site, was sold to Koppers Industries, Inc., on December 28, 1988.  
2 On January 20, 1989, BNS Acquisitions merged into Koppers Com-  
3 pany, Inc., and on January 26, 1989, the name of Koppers Company,  
4 Inc., was changed to Beazer Materials and Services, Inc. On  
5 April 16, 1990, the name of Beazer Materials and Services, Inc.,  
6 was changed to Beazer East, Inc.

7 3. The western boundary of the Koppers Site is approximately  
8 3,000 feet east of the Feather River. The Site lies in the  
9 Feather River flood plain, which is approximately 2.7 miles wide  
10 near the Site. The Property lies roughly 145 feet above sea  
11 level; the Feather River is roughly 130 above sea level. Surface  
12 water run-off flows from the Koppers Site to the west onto ad-  
13 jacent property owned by the Louisiana Pacific Company. This  
14 water flows primarily in a ditch between the two properties, and  
15 through a channel which traverses the former spray fields on the  
16 Koppers Site in a generally northeast to southeast direction.

17 4. The underlying geology of the Site consists of gravels,  
18 sands and clays that were deposited by the Feather River and an-  
19 cestral Feather River systems. Several interconnected aquifer  
20 zones have been defined on and off the Site. The regional  
21 groundwater flow is generally to the south, with upper aquifers  
22 demonstrating some southwesterly components.

23 5. Land use in the vicinity of the Site is mixed agricul-  
24 tural, residential, commercial and industrial. Produce and live-  
25 stock raised on local one to five-acre farms are primarily con-  
26 sumed by residents and not sold commercially. Residential areas

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1 are located to the south, southeast, west and northeast of the  
2 Site. Three schools are located within a two-mile radius of the  
3 Site.

4 6. Chemical preservatives including pentachlorophenol,  
5 creosote and chromated copper arsenate have been applied on the  
6 Property to wood in pressurized treatment vessels. Wood treat-  
7 ment solutions dripped to the ground as the treated wood was  
8 handled. Wastewaters from creosote and pentachlorophenol wood  
9 treating processes were discharged directly to unlined ponds near  
10 the western boundary of the Site. The creosote wastes included  
11 polynuclear aromatic hydrocarbons, a group of compounds found in  
12 creosote. From 1963 to 1973, Koppers Company, Inc., used a caus-  
13 tic solution to rinse excess pentachlorophenol from treated wood  
14 poles over unlined soil. In 1963 there was a fire in a pen-  
15 tachlorophenol treatment process area, and the debris from this  
16 fire was buried on-Site. A second explosion and fire in the pen-  
17 tachlorophenol treatment process occurred in April 1987.

18 7. In 1971, pentachlorophenol was detected in Property  
19 groundwater. In 1972, this contamination was found in residen-  
20 tial wells southwest of the Property. In 1973, the California  
21 Regional Water Quality Control Board for the Central Valley  
22 Region ("RWQCB") issued an order to Koppers Company, Inc., which  
23 led to cleanup activities and process changes. That order was  
24 rescinded in 1974. In 1981 the RWQCB and the California Depart-

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1 ment of Health Services ("DHS") directed investigations of  
2 Property contamination. The RWQCB issued two orders in 1982 for  
3 the cleanup of contaminated soils and groundwater.

4 8. In September 1983, pursuant to Section 105 of CERCLA, 42  
5 U.S.C. § 9605, EPA proposed the Site for inclusion on the Na-  
6 tional Priorities List (NPL). EPA placed the Site on the NPL on  
7 September 21, 1984 (49 Fed. Reg. 37070).

8 9. In response to a release or a substantial threat of a  
9 release of a hazardous substance at or from the Site, a Remedial  
10 Investigation and Feasibility Study ("RI/FS") were conducted for  
11 the Site pursuant to 40 C.F.R. § 300.68.

12 10. A Remedial Investigation ("RI") Report was completed in  
13 August 1988, and a Feasibility Study ("FS") Report was completed  
14 in May 1989. Pursuant to Section 117 of CERCLA, 42 U.S.C. §  
15 9617, EPA published notice of the completion of the FS Report.  
16 In May and June 1989, opportunity was provided for public comment  
17 on the proposed remedial action when the FS Report was released  
18 to the public.

19 11. The decision by EPA on the remedial action to be imple-  
20 mented at the Site is embodied in an Operable Unit Record of  
21 Decision ("ROD"), executed on April 4, 1990, on which the State  
22 had a reasonable opportunity to review and comment. The Record of  
23 Decision is attached to this Order as Attachment 1 and is incor-  
24 porated by reference. The Record of Decision is supported by an  
25 administrative record that contains the documents and information  
26 upon which EPA based the selection of the response action.

1           12. The contaminants found at the Site to date include, but  
2   are not limited to, pentachlorophenol, isopropyl ether,  
3   polychlorinated dibenzodioxins/dibenzofurans (PCDDs/PCDFs),  
4   polynuclear aromatic hydrocarbons (PAHs), arsenic, boron,  
5   chromium, copper, xylenes and 2, 3, 4, 6- tetrachlorophenol.  
6   These contaminants are hazardous substances as defined by CERCLA  
7   § 104(14), and are toxic and/or carcinogenic to animals and/or  
8   humans.

9           13. There have been releases of hazardous substances at the  
10   Site, posing numerous threats to human health and the environ-  
11   ment. Wood treating operations and waste water handling on the  
12   Property have contaminated Property and Site soils. Water pass-  
13   ing over contaminated soils has led to impacts on surface waters  
14   and sediments on Property. Contaminated soil has become airborne  
15   due to vehicular traffic and wind erosion. Soil contamination  
16   has, in turn, leached into groundwater. Contaminated groundwater  
17   has migrated throughout the Site. Alternative water supplies are  
18   currently used for both on and off-Site drinking water. The use  
19   of contaminated groundwater to irrigate Site soils has led to  
20   potential exposure to contaminated water and to contaminated  
21   soils.

22           14. The population at risk from the release of hazardous  
23   substances from the Site includes the nearby residents of the  
24   City of Oroville and workers in the several businesses located on  
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1 or near the Site. As detailed in the ROD, the consequences to  
2 this population of these releases include potential harmful ex-  
3 posure to toxic and carcinogenic substances.

4 15. Based on the April 4, 1990, ROD, the final remedy  
5 selected for the Site consists of extraction and treatment of  
6 groundwater and treatment of Property soils. A complete descrip-  
7 tion of the final remedy for this Site is contained in the ROD  
8 and in this Order.

9 16. For both groundwater and Property soils, EPA estab-  
10 lished remedial objectives as set forth in Table 10-1 of the ROD.  
11 Respondents shall through Remedial Design and Remedial Action  
12 meet all remedial objectives identified in the ROD.

### 14 III. CONCLUSIONS OF LAW AND DETERMINATIONS

15 1. The Site is a "facility" as defined in Section 101(9)  
16 of CERCLA, 42 U.S.C. Section 9601(9).

17 2. Respondents are a "person" as defined in Section  
18 101(21) of CERCLA, 42 U.S.C. Section 9601(21).

19 3. Respondents are "liable parties" as defined in Section  
20 107(a) of CERCLA, 42 U.S.C. Section 9607(a), and are subject to  
21 this Order under Section 106(a) of CERCLA, 42 U.S.C. Section  
22 9606(a).

23 4. The substances listed in Section II.12. of this Order  
24 are found at the Site and are "hazardous substances" as defined  
25 in Section 101(14) of CERCLA, 42 U.S.C. Section 9601(14).

1           5.    These hazardous substances have been released at the  
2   Site and are continuing to be released from the soil into the  
3   groundwater.

4           6.    The past disposal and migration of previously disposed  
5   hazardous substances from the Site constitute a "release" and a  
6   continuing threat of a "release" as defined in section 101(22) of  
7   CERCLA, 42 U.S.C. section 9601(22).

8           7.    The release or threat of release of one or more hazard-  
9   ous substances from the facility may present an imminent and sub-  
10   stantial endangerment to the public health, welfare, and the en-  
11   vironment.

12          8.    The actions required by this Order are necessary to  
13   protect the public health, welfare, and the environment.

#### 14 15                           IV. NOTICE TO THE STATE

16          Prior to issuing this Order, EPA notified the California  
17   Department of Health Services and the California Regional Water  
18   Quality Control Board, Central Valley Region, of its intent to  
19   issue this Order.

#### 20 21                           V. ORDER

22          Based on the foregoing, Respondents are hereby ordered to  
23   comply with the following provisions, including but not limited  
24   to all attachments to this Order, all documents incorporated by  
25   reference into this Order, and all schedules and deadlines in  
26   this Order, attached to this Order, or incorporated by reference



1 into this Order. Respondents are jointly and severably liable to  
2 perform the work and otherwise comply with all provisions of this  
3 Order.

#### 5 VI. DEFINITIONS

6 1. Unless otherwise expressly provided herein, terms used  
7 in this Order which are defined in CERCLA or in regulations  
8 promulgated under CERCLA shall have the meaning assigned to them  
9 in the statute or its implementing regulations. Whenever terms  
10 listed below are used in this Order or in the documents attached  
11 to this Order or incorporated by reference into this Order, the  
12 following definitions shall apply:

13 2. "CERCLA" shall mean the Comprehensive Environmental  
14 Response, Compensation, and Liability Act of 1980, as amended, 42  
15 U.S.C. Section 9601, et seq.

16 3. "Day" shall mean a calendar day unless expressly  
17 stated to be a working day. "Working day" shall mean a day other  
18 than a Saturday, Sunday, or Federal holiday. In computing any  
19 period of time defined in "working days" under this Order, where  
20 the last day would fall on a Saturday, Sunday, or Federal  
21 holiday, the period shall run until the end of the next working  
22 day.

23 4. "Deliverable" shall mean any plan, report, document,  
24 or any other item required of the Respondents under this Order.

25 5. "EPA" shall mean the United States Environmental  
26 Protection Agency.

1           6.     "Groundwater Remedy" shall mean the groundwater ex-  
2     traction, treatment, monitoring, and discharge facilities used  
3     for the remedy as required by the ROD of both on-Property and  
4     off-Property groundwater so as to achieve Performance Standards  
5     throughout the aquifer.

6           7.     "National Contingency Plan" or "NCP" shall mean the  
7     National Oil and Hazardous Substances Pollution Contingency Plan  
8     promulgated pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605,  
9     codified at 40 C.F.R. Part 300, including any amendments thereto.

10          8.     "Operation and Maintenance" or "O&M" shall mean all  
11     activities required under the Operation and Maintenance Plans  
12     developed by Respondents pursuant to this Order as approved by  
13     EPA.

14          9.     "Paragraph" shall mean a portion of this Order iden-  
15     tified by an arabic numeral.

16          10.    "Performance Standards" shall mean those cleanup  
17     standards, standards of control, and other substantive require-  
18     ments, criteria or limitations, identified in the Record of Deci-  
19     sion, particularly those standards identified in Table 10-1 of  
20     the ROD, Table 2-3 of the Feasibility Study and in Section X of  
21     this Order, that the Work required by this Order must attain and  
22     maintain.

1           11.       "Property" shall mean the parcel or parcels located  
2       on the Baggett-Marysville Road, in Butte County, California,  
3       which is/are owned by Koppers Industries, Inc. and which roughly  
4       comprise the 200-acre wood treating facility identified in Figure  
5       1-2 of the ROD. The Property is part of the Site.

6           12.       "Record of Decision" or "ROD" shall mean the EPA  
7       Operable Unit Record of Decision, Koppers Superfund Site,  
8       Oroville, California, signed on April 4, 1990, by the Regional  
9       Administrator, EPA Region 9, and all attachments thereto.

10          13.       "Remedial Action" or "RA" shall mean those ac-  
11       tivities, including Operation and Maintenance, to be undertaken  
12       by Respondents to implement the final plans and specifications  
13       submitted by Respondents pursuant to the Remedial Design Work  
14       Plans approved by EPA and required by Section X of this Order,  
15       including any additional activities required under Sections XI,  
16       XII, XIII, XIV and XV of this Order.

17          14.       "Remedial Design" or "RD" shall mean those activities  
18       to be undertaken by Respondents to develop the plans and  
19       specifications for the Remedial Action pursuant to the Remedial  
20       Design Work Plans required by Section X of this Order.

21          15.       "Response Costs" shall mean all costs, including  
22       direct costs, indirect costs, and accrued interest incurred by  
23       the United States to perform or support response actions at the  
24       Site. Response costs include, but are not limited to, the costs  
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1 of overseeing the Work, such as the costs of reviewing or  
2 developing plans, reports and other items pursuant to this Order  
3 and costs associated with verifying the Work.

4 16. "Section" shall mean a portion of this Order iden-  
5 tified by a roman numeral and including one or more paragraphs.

6 17. "Site" or "Koppers Site" shall mean the "facility",  
7 as that term is defined at Section 101(a)(B) of CERCLA, 42 U.S.C.  
8 Sec. 9601(a)(B), located on the Baggett-Marysville Road in Butte  
9 County, California, consisting of the Property, the area iden-  
10 tified in Figure 7-2 of the ROD and all areas where hazardous  
11 substances released or disposed of at or from the Property have  
12 come to be located.

13 18. "Soil Remedy" shall mean the soil remedial actions  
14 identified in Section 10.1 of the ROD.

15 19. "Soil Unit" shall mean the soil units described in  
16 the ROD.

17 20. "State" shall mean the California Department of  
18 Health Services and the California Regional Water Quality Control  
19 Board, Central Valley Region.

20 21. "Work" shall mean all activities Respondents is re-  
21 quired to perform under this Order, including but not limited to,  
22 Remedial Design, Remedial Action, and any activities required to  
23 be undertaken pursuant to Sections IX through XVI of this Order.

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1 VII. NOTICE OF INTENT TO COMPLY

2 Respondents shall each provide, not later than seven (7) days  
3 after the effective date of this Order, written notice to the EPA  
4 Remedial Project Manager ("RPM") stating Respondents' intent to  
5 comply with the terms of this Order. If EPA determines that  
6 Respondents do not unequivocally commit to perform the Work as  
7 provided by this Order, Respondents shall be deemed to have vio-  
8 lated this Order and to have failed or refused to comply with  
9 this Order. Respondents' written notice shall describe, using  
10 facts that exist on or prior to the effective date of this Order,  
11 any "sufficient cause" defenses asserted by Respondents under  
12 sections 106(b) and 107(c)(3) of CERCLA. The absence of a  
13 response by EPA to the notice required by this Section shall not  
14 be deemed to be acceptance of Respondents' assertions.

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16 VIII. PARTIES BOUND

17 1. This Order shall apply to and be binding upon the  
18 Respondents, their directors, officers, employees, agents, suc-  
19 cessors, and assigns. No change in the ownership, corporate  
20 status, or other control of Respondents shall alter any of the  
21 Respondents' responsibilities under this Order.

22 2. Respondents shall provide a copy of this Order to any  
23 prospective owners or successors before a controlling interest in  
24 Respondents' assets, property rights, or stock are transferred to  
25 the prospective owner or successor. To ensure compliance with  
26 this Order, Respondents shall provide a copy of this Order to

1 each contractor, sub-contractor, laboratory, or consultant  
2 retained to perform any Work under this Order, within five days  
3 after the effective date of this Order or on the date such serv-  
4 ices are retained, whichever date occurs later. Respondents  
5 shall also provide a copy of this Order to each person represent-  
6 ing Respondents with respect to the Site or the Work and shall  
7 condition all contracts and subcontracts entered into hereunder  
8 upon performance of the Work in conformity with the terms of this  
9 Order. With regard to the activities undertaken pursuant to this  
10 Order, each contractor and subcontractor shall be deemed to be  
11 related by contract to the Respondents within the meaning of sec-  
12 tion 107(b)(3) of CERCLA, 42 U.S.C. Section 9607(b)(3). Not-  
13 withstanding the terms of any contract, Respondents are respon-  
14 sible for compliance with this Order and for ensuring that their  
15 contractors, subcontractors and agents comply with and perform  
16 any Work in accordance with this Order.

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18 IX. NOTICE OF OBLIGATIONS TO SUCCESSORS-IN-TITLE

19 1. Within ten (10) days after the effective date of this  
20 Order, Respondents shall (1) record a copy or copies of this Or-  
21 der in the appropriate governmental office where land ownership  
22 and transfer records are filed or recorded; (2) record a notice  
23 of obligation to provide access and related covenants; and (3)  
24 ensure that the recording of this Order is indexed to the titles  
25 of each and every parcel at the Site so as to provide notice to  
26 third parties of the issuance and terms of this Order with

1 respect to those properties. Respondents shall, within fifteen  
2 (15) days after the effective date of this Order, send notice of  
3 full compliance with this Paragraph to EPA.

4 2. Not later than fifteen (15) days prior to any transfer  
5 by or to Respondents of any real property interest in any  
6 property included within the Site, Respondents shall submit a  
7 true and correct copy of the transfer documents to EPA, and shall  
8 identify the transferor transferee by name, principal business  
9 address and effective date of the transfer.

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11 X. WORK TO BE PERFORMED

12 1. Respondents shall cooperate with EPA in providing in-  
13 formation to the public regarding the Work. As requested by EPA,  
14 Respondents shall participate in the preparation of information  
15 for distribution to the public and in public meetings which may  
16 be held or sponsored by EPA to explain activities at or relating  
17 to the Site.

18 2. All aspects of the Work shall be performed by qualified  
19 employees or contractors of Respondents. Within fifteen (15)  
20 days after the effective date of this Order, Respondents shall  
21 select the contractor(s) which Respondents propose to use in car-  
22 rying out the Work under this Order and notify EPA in writing of  
23 the name and qualifications of the contractor(s), including  
24 primary support entities and staff. Respondents' selected  
25 contractor(s) shall have expertise in: (a) design and implementa-  
26 tion of remedial actions involving pump and treat systems for the

1 removal of contaminants in groundwater; and (b) design and im-  
2 plementation of remedial actions involving soil cleanup tech-  
3 nologies such as soil washing, bioremediation, fixation and cap-  
4 ping.

5 3. EPA will review and approve/disapprove of Respondents'  
6 selected contractor(s) according to the terms of Section X.2. and  
7 Section XV.1. and XV.5. of this Order. If EPA disapproves of the  
8 selection of a contractor, Respondents shall submit to EPA within  
9 thirty (30) days after notice of EPA's disapproval, a list of  
10 contractors, including primary support entities and staff, that  
11 would be acceptable to Respondents. EPA will thereafter provide  
12 written notice to Respondents of the names of the contractors  
13 that are acceptable to EPA. Respondents may then select any ap-  
14 proved contractor from that list and shall notify EPA of the name  
15 of the contractor selected within fifteen (15) days of EPA's  
16 designation of approved contractors.

17 4. If at any time Respondents proposes to use a different  
18 contractor, Respondents shall notify EPA and shall obtain ap-  
19 proval from EPA before the new contractor performs any Work under  
20 this Order.

21 5. Unless otherwise directed by EPA, Respondents shall not  
22 perform any Work under this Section prior to EPA's approval of  
23 such Work.

24 6. Respondents shall implement the Remedial Design and  
25 Remedial Action Work Plans described below, including:  
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- 1 a) The design and construction of groundwater ex-  
2 traction, treatment, and reinjection/recharge systems  
3 to reduce contamination in on- and off-Property  
4 groundwater to the remedial objectives in the ROD.
- 5 b) The design and construction of treatment systems for  
6 soils to reduce soil contamination to meet the remedial  
7 objectives in the ROD. These soil remedies shall con-  
8 sist of:
- 9 i) In-situ biodegradation of contaminants in soils in  
10 Unit S1 to the ROD's remedial objectives;
- 11 ii) Excavation, treatment by soil washing, and on-  
12 Site disposal of soils in Unit S2 to meet the  
13 ROD's remedial objectives.
- 14 iii) Construction of a cap over Unit S3, and, as neces-  
15 sary, construction of additional extraction wells  
16 immediately downgradient of Unit S3 to contain  
17 contaminated groundwater migrating from this area.  
18 As part of the selected remedy for this unit, the  
19 contaminated soil beneath the process area, when  
20 accessible, shall be addressed in a manner consis-  
21 tent with soils in other soil units to meet the  
22 Performance Standards.
- 23 iv) Excavation, treatment by chemical fixation, and  
24 on-Property disposal of soils in Unit S4 to meet  
25 the ROD's remedial objectives.
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1           7. To permit planning of the long-term remedial action of  
2   Soil Unit S3, Respondents shall notify EPA at least thirty (30)  
3   days in advance of any of the following changes in the plant  
4   operations located within Soil Unit S3: suspension of plant  
5   operations projected to last at least twelve (12) months, per-  
6   manent reduction of any plant operations or permanent termination  
7   of plant operations. In the event EPA decides that such suspen-  
8   sion, permanent reduction or permanent termination would permit  
9   remedial action, EPA will so notify Respondents. Respondents  
10  shall then submit a work work plan to EPA within thirty (30) days  
11  after Respondents receive notice from EPA and shall commence  
12  remedial action pursuant to the work plan approved by EPA.

13           8. Within thirty (30) days after Respondents select an ap-  
14  proved contractor, Respondents shall submit to EPA a Sampling and  
15  Analysis Plan ("SAP") for groundwater and soils, in accordance  
16  with EPA Region IX guidance regarding sampling and analysis plans  
17  dated February 2, 1990. Respondents shall submit all data  
18  results to EPA. This plan shall include, but not be limited to,  
19  the following: (a) sampling procedures; (b) proposed sampling  
20  locations to monitor and confirm compliance with zone of capture  
21  requirements and Performance Standards; (c) proposed water level,  
22  water quality and soil sampling schedules; (d) a QA/QC Plan that  
23  meets the requirements of Section XVII of this Order; and (e)  
24  number of samples, duplicates and blanks to be collected.

1                                   A. Alternative Water Supply

2           1. Respondents shall continue to provide an alternative  
3 water supply for domestic use (including domestic irrigation) for  
4 those water users within the area south of the Property that was  
5 annexed to the Oroville-Wyandotte Irrigation District (OWID) in  
6 February, 1986 and who were connected at Beazer's expense.

7 Respondents' obligation to any such water user shall cease when  
8 the concentration of pentachlorophenol in the well of such user  
9 falls below fifty (50) per cent of the Performance Standards for  
10 twelve consecutive months, as determined in accordance with an  
11 EPA-approved monitoring program.

12          2. Respondents shall provide an alternative water supply to  
13 additional users under the following circumstances. Respondents  
14 shall continue the monitoring of groundwater on- and off-Site  
15 pursuant to the EPA-approved groundwater monitoring program. If  
16 monitoring results from a well indicate the presence (with a  
17 detection limit not greater than 0.1 parts per billion) of pen-  
18 tachlorophenol ("PCP"), Respondents shall sample that well again  
19 within ten (10) days of Respondents' receipt of the initial posi-  
20 tive results. The potentially affected well shall be upgraded to  
21 the next higher sampling frequency within the monitoring program.  
22 If testing of any well shows PCP concentrations in excess of  
23 fifty (50) per cent of the ROD's Remedial Action goal for PCP,  
24 twice within a one year period, Respondents shall provide to the  
25 user of the well an alternative water supply for domestic use  
26 (including domestic irrigation) until the concentration of PCP in

1 the well of such user falls below fifty (50) per cent of the Per-  
2 formance Standards for twelve consecutive months, as determined  
3 in accordance with the monitoring program.

4 3. Respondents shall provide an alternative water supply  
5 for any wells on or off-Site that EPA determines that, when used,  
6 have an adverse impact on the remedy of groundwater containing  
7 Site-related constituents.

8 4. Within sixty (60) days of the effective date of this Or-  
9 der, Respondents shall submit to EPA a plan describing (a) how  
10 Respondents will fulfill their obligation to provide the alter-  
11 nate water supplies referenced in Paragraphs 1 and 2 above, and  
12 (b) the process by which domestic water supplies affected by Site  
13 contaminants will be annexed to the Oroville Wyandotte Irrigation  
14 District.

15

16 B. Groundwater Remedy Remedial Design

17 1. Within forty-five (45) days after Respondents select an  
18 approved contractor(s), Respondents shall submit a draft work  
19 plan for the Groundwater Remedy Remedial Design at the Site  
20 ("Groundwater Remedial Design Work Plan" or "Groundwater RD Work  
21 Plan") to EPA for review and approval. The Groundwater RD Work  
22 Plan shall include a detailed plan for completing the remedial  
23 design for the Groundwater Remedy described in this Order and in  
24 the ROD and for attaining and maintaining all requirements, in-  
25 cluding Performance Standards. The Groundwater Remedy consists  
26 of (1) on-Property and off-Property groundwater extraction sys-

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1    tems to create zones of capture which shall hydraulically contain  
2    the hazardous substances (listed in Table 10-1 of the ROD and  
3    Table 2-3 of the FS) in the groundwater; (2) on-Property and  
4    off-Property water treatment systems to treat the extracted  
5    groundwater; and (3) recharge/reinjection systems for the treated  
6    water consistent with the requirements of the ROD. The  
7    Groundwater Remedy will consist of separate and distinct extrac-  
8    tion, treatment, and discharge systems for on-Property and off-  
9    Property groundwater.

10        2.    The Groundwater RD Work Plan must describe in detail  
11    the tasks and deliverables Respondents will complete during the  
12    remedial design phase, and a schedule for completing the tasks  
13    and deliverables regarding the Groundwater Remedy consistent with  
14    the timeframes set forth in this Order. The tasks and  
15    deliverables in the Groundwater RD Work Plan shall include, but  
16    not be limited to, the following: (1) a design memorandum; (2) a  
17    description of the components required for the conceptual,  
18    prefinal and final designs; (3) the scope and schedule of  
19    treatability studies; (4) an Emergency Contingency Plan; (5) a  
20    Construction Quality Assurance Plan (CQAP); (6) a QA/QC Plan that  
21    meets the requirements of Section XVII of this Order; and (7) a  
22    description of the background study of arsenic and chromium  
23    levels in regional groundwater to be performed during Remedial  
24    Design. The design memorandum shall present the basic methodol-  
25    ogy, design criteria and parameters, and critical issues regard-

1 ing implementation of the groundwater Remedy. The Groundwater RD  
2 Work Plan shall be consistent with EPA's "Superfund Remedial  
3 Design and Remedial Action Guidance, OSWER Directive 9355.0-4A".

4 3. Respondents shall, within sixty (60) days after Respon-  
5 dents selects an approved contractor, prepare and submit to EPA  
6 for review, a Site Health and Safety Plan for field design ac-  
7 tivities. The Site Health and Safety Plan shall conform to the  
8 applicable Occupational Safety and Health Administration and EPA  
9 requirements, including but not limited to 54 Fed. Reg. 9294.

10 4. Upon approval of the Groundwater RD Work Plan by EPA,  
11 Respondents shall implement the Groundwater RD Work Plan accord-  
12 ing to the schedules in the Groundwater RD Work Plan and in this  
13 Order. Any violation of the approved Groundwater RD Work Plan  
14 shall be a violation of this Order. Unless otherwise directed by  
15 EPA, Respondents shall not perform further groundwater Work at  
16 the Site prior to EPA's written approval of the Groundwater RD  
17 Work Plan.

18 *OFF-PROPERTY GROUNDWATER*

19 5. To facilitate design, construction and initial opera-  
20 tion of the off-Property treatment system, EPA will allow on a  
21 temporary basis the off-Site surface discharge to Wyman Ravine of  
22 the treated off-Property water subject to and in compliance with  
23 a discharge permit. Within thirty (30) days after EPA approves  
24 the Groundwater RD Work Plan, Respondents shall submit an ap-  
25 plication to the Regional Water Quality Control Board, Central  
26  
27

1 Valley Region, for a permit for surface discharge to Wyman Ravine  
2 of the treated water from the off-Property groundwater treatment  
3 system.

4 6. Within thirty (30) days after EPA approves the  
5 Groundwater RD Work Plan, Respondents shall submit a Conceptual  
6 Design for the off-Property groundwater remedy to EPA for review  
7 and approval. As used here, the term Conceptual Design means  
8 thirty (30) percent of complete final design. The Conceptual  
9 Design submittal shall include, at a minimum, the following:

- 10 a. Results of groundwater flow and chemical transport  
11 modeling, including an analysis of the impacts of  
12 recharge/reinjection;
- 13 b. Design analysis, including analysis necessary to  
14 satisfy zone of capture requirements and substantive  
15 state and local permitting requirements;
- 16 c. Evaluation of the off-Property groundwater monitoring  
17 program and recommendations for changes to provide  
18 necessary data on extraction effectiveness,  
19 reinjection/recharge influences, plume migration and  
20 expansion/reduction of the alternative water supply;
- 21 d. Location of extraction wells, the treatment plant, and  
22 the reinjection/recharge system and the temporary sur-  
23 face water discharge;
- 24 e. Major equipment list;
- 25 f. Approximate pumping rates for all extraction wells;
- 26 g. Site plan (piping/layout);

27

- h. Copies of any necessary easements;
- i. Piping and flow diagrams for treatment plant; and
- j. Ancillary equipment list (substations, etc.).

7. Within thirty (30) days after EPA approval of the Conceptual Design, Respondents shall submit a Prefinal Design for the Off-Property groundwater Remedy to EPA for review and approval. As used here, the term Prefinal Design means seventy (70) percent of complete final design. The Prefinal Design submittal shall include, at a minimum, the following:

- a) Construction drawings;
- b) Specifications;
- c) Schedules;
- d) Cost estimates;
- e) Draft preliminary operation and maintenance plan; and
- f) Plan for controlling surface water runoff during RA.

8. Within thirty (30) days after EPA approval of the Prefinal Design, Respondents shall submit a Final Design and specifications for the off-Property groundwater remedy to EPA. The Final Design and specifications submittal shall include, at a minimum, the following:

- a. Design analysis;
- b. Piping and instrument diagram for the treatment plant;



- 1           c.    Specifications for the treatment plant and extraction  
2                system sufficient to comply with the treatment plant  
3                discharge requirements and zone of capture requirements  
4                described above;
- 5           d.    Preliminary Groundwater Remedy Operation and Main-  
6                tenance Plan that includes, at a minimum:
- 7                i.   Recommended frequency of water-level measurements  
8                and water-quality testing for each extraction,  
9                reinjection/recharge and monitoring well, and water  
10              quality testing of the influent and treated effluent  
11              water at the point of discharge from the treatment  
12              plant. These shall include separate schedules for  
13              startup and routine operations;
- 14              ii.   Proposed decision-making process and criteria for  
15              a) shutting down specific extraction wells and adding  
16              additional extraction wells, and b) modification of the  
17              reinjection/recharge system; and c) expanding the  
18              capacity of the system;
- 19              iii.   Recommended frequency for testing of air emis-  
20              sions during startup and routine operations;
- 21              iv.   Recommended frequency for water quality testing  
22              during potential rebound period, and criteria for re-  
23              starting an extraction well in any particular area; and
- 24              v.   Proposed plan for ceasing temporary surface dis-  
25              charge and converting to reinjection/recharge by the  
26              end of the twelve (12) months of O&M.
- 27

- e. Construction schedule and phasing;
- f. The Construction Quality Assurance Plan (CQAP) which shall describe the approach to quality assurance during construction activities at the Site and shall specify a quality assurance official (QA Official), independent of the supervising contractor, to conduct a quality assurance program during the construction phase of the project;
- g. QA/QC Plan that meets the requirements of Section XVII of this Order; and
- h. Site Health and Safety Plan for the Off-Property groundwater Remedy.

#### ON-PROPERTY GROUNDWATER

9. In order to facilitate design, construction and initial operation of the on-Property treatment system, EPA will allow the Respondents to continue on a temporary basis the on-Property surface discharge of the treated water subject to and in compliance with appropriate discharge permits. Within one hundred and twenty (120) days after EPA approves the groundwater RD Work Plan, Respondents shall submit an application for a permit for surface discharge of the treated water from the On-Property groundwater Treatment system (unless Respondents submit to EPA within the 120 days an existing permit that would allow them to discharge treated on-Property groundwater).

1           10. Within one hundred and twenty (120) days after EPA ap-  
2 proves the Groundwater RD Work Plan, Respondents shall submit a  
3 Conceptual Design for the On-Property groundwater Remedy to EPA  
4 for review and approval. As used here, the term Conceptual  
5 Design means thirty (30) percent of complete final design. The  
6 Conceptual Design submittal shall include, at a minimum, the fol-  
7 lowing:

- 8           a. Results of groundwater flow and chemical transport  
9                 modeling, including an analysis of the impacts of  
10                recharge/reinjection and the impacts of wells used by  
11                Louisiana-Pacific Corporation;
- 12           b. Design analysis, including analysis necessary to  
13                satisfy zone of capture requirements and substantive  
14                state and local permitting requirements;
- 15           c. Evaluation of the on-Property groundwater monitoring  
16                program and recommendations for changes to provide  
17                necessary data on extraction effectiveness,  
18                reinjection/recharge influences, and plume migration;
- 19           d. Location of extraction wells, the treatment plant, and  
20                the reinjection/recharge system and the temporary sur-  
21                face water discharge;
- 22           e. Major equipment list;
- 23           f. Approximate pumping rates for all extraction wells;
- 24           g. Site plan (piping/layout);
- 25           h. Copies of any necessary easements;
- 26           i. Piping and flow diagrams for treatment plant;

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- 1       j.   Ancillary equipment list (substations, etc.);
- 2       k.   Presentation of results of metals background study for
- 3           groundwater and the resulting area and volume of
- 4           groundwater with arsenic and chromium levels in excess
- 5           of background; and
- 6       l.   Results of groundwater treatability studies.

7

8       11. Within sixty (60) days after EPA approval of the Concep-

9       tual Design, Respondents shall submit a Prefinal Design for the

10      on-Property groundwater remedy to EPA for review and approval.

11      As used here, the term Prefinal Design means seventy (70) percent

12      of complete final design. The Prefinal Design submittal shall

13      include, at a minimum, the following:

- 14       a)   Construction drawings;
- 15       b)   Specifications;
- 16       c)   Schedules;
- 17       d)   Cost estimates;
- 18       e)   Draft preliminary operation and maintenance plan; and
- 19       f)   Plan for controlling surface water runoff during RA.

20

21      12. Within sixty (60) days after EPA approval of the

22      Prefinal Design, Respondents shall submit a Final Design and

23      specifications for the on-Property groundwater remedy to EPA.

24      The Final Design and specifications submittal shall include, at a

25      minimum, the following:

- 26       a.   Design analysis;

- b. Piping and instrument diagram for the treatment plant;
- c. Specifications for the treatment plant and extraction system sufficient to comply with the treatment plant discharge requirements and zone of capture requirements described above;
- d. Preliminary groundwater Remedy Operation and Maintenance Plan that includes, at a minimum:
  - i. Recommended frequency of water-level measurements and water-quality testing for each extraction, reinjection/recharge and monitoring well, and water quality testing of the influent and treated effluent water at the point of discharge from the treatment plant. These shall include separate schedules for startup and routine operations;
  - ii. Proposed decision-making process and criteria for
    - a) shutting down specific extraction wells and adding additional extraction wells;
    - b) modification of the reinjection/recharge system; and
    - c) expanding the capacity of the system;
  - iii. Recommended frequency for testing of air emissions during startup and routine operations;
  - iv. Recommended frequency for water quality testing during potential rebound period, and criteria for restarting an extraction well in any particular area; and

1 v. Proposed plan for ceasing temporary surface dis-  
2 charge and converting to reinjection/recharge by the  
3 end of the twelve (12) months of O&M.

4 e. Construction schedule and phasing;

5 f. The Construction Quality Assurance Plan (CQAP) which  
6 shall describe the approach to quality assurance during  
7 construction activities at the Site and shall specify a  
8 quality assurance official (QA Official), independent  
9 of the supervising contractor, to conduct a quality as-  
10 surance program during the construction phase of the  
11 project;

12 g. QA/QC Plan that meets the requirements of Section XVII  
13 of this Order; and

14 h. Site Health and Safety Plan for the on-Property  
15 groundwater remedy.  
16

17 C. Groundwater Remedy Remedial Action

18 1. During start-up activities, Respondents shall treat all  
19 water from the groundwater extraction systems so that the ef-  
20 fluent water meets the federal and state standards for treatment  
21 plant discharge levels as identified in the RWQCB permits issued  
22 for such discharges. During start-up activities, Respondents  
23 shall monitor the quantity and quality of extracted groundwater  
24 and treatment plant effluent on a schedule as provided for in the  
25  
26  
27

1 SAP and the Preliminary Groundwater Remedial Action Operations  
2 and Maintenance Plans developed in accordance with Paragraphs  
3 B.8.d. and B.12.d. of this Section.

4 2. Within thirty (30) days after EPA approves all  
5 deliverables required as part of the Final Design for each of the  
6 groundwater remedies, Respondents shall begin construction of the  
7 facilities for the implementation of that groundwater remedy.

8 3. Respondents shall not commence Groundwater Remedy  
9 remedial action at the Site without EPA approval to proceed.

10 4. Within sixty (60) days after the start of construction  
11 of each groundwater remedy, Respondents shall commence start-up  
12 for that remedy.

13 5. Respondents shall confirm the vertical and lateral  
14 boundaries of the "zones of capture" for both the on-Property and  
15 off-Property groundwater by groundwater monitoring. The zones of  
16 capture must encompass the area(s) of the Site in which  
17 groundwater monitoring indicates hazardous substance levels in  
18 excess of Performance Standards. The Respondents shall maintain  
19 the zones of capture by ensuring a vertical and horizontal  
20 hydraulic gradient from the edges of the areas exceeding Perfor-  
21 mance Standards to the extraction wells.

22 6. Within twelve (12) months after the start-up of the  
23 groundwater Remedy, Respondents shall submit a final Operation  
24 and Maintenance Plan for the groundwater Remedy. Within five (5)  
25 days of EPA's approval of the Final Operation and Maintenance  
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1 Plan for the groundwater Remedy, Respondents shall begin and  
2 thereafter maintain routine operation activities in accordance  
3 with that plan.

4 7. The treatment plant discharge must meet the Performance  
5 Standards based on the sampling schedule to be contained in the  
6 Operation and Maintenance Plan. Respondents shall orally report  
7 any noncompliance with Performance Standards, any treatment plant  
8 shut-down exceeding forty-eight (48) hours, or any spills or  
9 release of hazardous substances to EPA within twenty-four (24)  
10 hours of discovery. Respondents shall follow oral notification  
11 with a written submission to EPA within five (5) days of Respon-  
12 dents' discovery of the noncompliance. This submission shall in-  
13 clude a description of the noncompliance and its cause, iden-  
14 tification of the period of noncompliance, including the dates  
15 and times, and the steps taken to eliminate and prevent recur-  
16 rence of the noncompliance. If the noncompliance has not been  
17 corrected, the submission must also estimate the anticipated  
18 duration of noncompliance and include a description of the steps  
19 taken or planned to eliminate and prevent recurrence of the non-  
20 compliance.

21 8. Within twelve (12) months after start-up of each of the  
22 on- and off-Property groundwater treatment facilities, the  
23 Respondents shall cease the discharge of treated water from that  
24 facility to surface water(s) and shall dispose of all treated  
25 water by reinjection/recharge.

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1           9.     Respondents shall continue operation and maintenance of  
2     the groundwater Remedy until water quality data from all extrac-  
3     tion and monitoring wells listed in the final Operation and Main-  
4     tenance Plan show compliance with the Performance Standards for  
5     twenty-four (24) consecutive months and the requirements of this  
6     Order are met.

7

8                               D.   Soil Remedy Remedial Design

9           1.     Within forty-five (45) days after Respondents selects  
10    an approved contractor, Respondents shall submit a work plan for  
11    the Soil Remedy Remedial Design at the Site ("Soil Remedial  
12    Design Work Plan" or "Soil RD Work Plan") to EPA for review and  
13    approval. The Soil RD Work Plan shall include a detailed plan  
14    for completing the remedial design for the soil remedies  
15    described in this Order and the ROD and for attaining and main-  
16    taining all requirements, including Performance Standards.

17          2.     The Soil RD Work Plan must describe in detail the tasks  
18    and deliverables Respondents will complete during the remedial  
19    design phase, and a schedule for completing the tasks and  
20    deliverables in the Soil RD Work Plan consistent with the  
21    timeframes set forth in this Order. The major tasks and  
22    deliverables in the Soil RD Work Plan shall include, but not be  
23    limited to, the following: (1) a design memorandum; (2) soil  
24    characterization and soil and water treatability studies to be  
25    performed during RD, (3) a description of the components of the  
26    conceptual, prefinal and final design and specifications; (4) an

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1 Emergency Contingency Plan; (5) a Construction Quality Assurance  
2 Plan (CQAP); (6) a QA/QC Plan that meets the requirements of Sec-  
3 tion XVII of this Order; and (7) a description of the background  
4 study of arsenic and chromium levels in local soils to be per-  
5 formed during Remedial Design. The design memorandum shall  
6 present the basic methodology, design criteria and parameters,  
7 and critical issues regarding implementation of each of the Soil  
8 Remedies. The Soil RD Work Plan shall be consistent with EPA's  
9 "Superfund Remedial Design and Remedial Action Guidance, OSWER  
10 Directive 9355.0-4A".

11 3. Respondents shall, within forty-five (45) days after  
12 Respondents selects an approved contractor, prepare and submit to  
13 EPA for review, a Site Health and Safety Plan for field design  
14 activities. The Site Health and Safety Plan shall conform to the  
15 applicable Occupational Safety and Health Administration and EPA  
16 requirements, including but not limited to 54 Fed. Reg. 9294.

17 4. Upon approval of the Soil RD Work Plan by EPA, Respon-  
18 dents shall implement the Soil RD Work Plan according to the  
19 schedule in the Soil RD Work Plan and in this Order. Any viola-  
20 tion of the approved Soil RD Workplan shall be a violation of  
21 this Order. Unless otherwise directed by EPA, Respondents shall  
22 not perform further Soil Work at the Site prior to EPA's written  
23 approval of the Soil RD Work Plan.

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1   CAPPING

2           5.   Within sixty (60) days after EPA approves the Soil RD  
3   Work Plan, Respondents shall submit a Conceptual Design for the  
4   Plant Area Cap for Soil Unit S3 to EPA for review and approval.  
5   For the purposes of the Order, the term Conceptual Design means  
6   thirty (30) per cent of complete final design. The Conceptual  
7   Design submittal shall include, at a minimum, the following:

- 8           a.   Design analysis, including analysis necessary to  
9                satisfy substantive state and local permitting require-  
10              ments if any;
- 11          b.   Size and location of the soil to be capped;
- 12          c.   Location of shallow extraction wells;
- 13          d.   Major and ancillary equipment list;
- 14          e.   Piping and flow diagrams;
- 15          f.   Copies of any necessary easements;
- 16          g.   Contingency plan;
- 17          h.   Plan for storing soils excavated in construction of the  
18              cap;
- 19          i.   Plan for dust control during construction;
- 20          j.   Plan for storing and treating runoff from the cap; and
- 21          k.   Plan for mitigating impacts on wet riparian habitats.

1           6.    Within sixty (60) days after EPA approves the Concep-  
2   tual Design for Soil Unit S3, Respondents shall submit a Prefinal  
3   Design and specifications to EPA. The Prefinal Design and  
4   specifications submittal shall include, at a minimum, the follow-  
5   ing:

- 6           a.    Construction drawings;
- 7           b.    Specifications;
- 8           c.    Schedules;
- 9           d.    Cost estimates;
- 10          e.    Draft preliminary operation and maintenance plan; and
- 11          f.    Plan for controlling surface water runoff during RA.

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13           7.    Within sixty (60) days after EPA approves the Prefinal  
14   Design for Soil Unit S3, Respondents shall submit a Final Design  
15   and specifications to EPA. The Final Design and specifications  
16   submittal shall include, at a minimum, the following:

- 17          a.    Design analysis;
- 18          b.    Piping and instrument diagram;
- 19          c.    Specifications for the cap and shallow extraction well  
20                designs;
- 21          d.    Construction schedule and phasing;
- 22          e.    QA/QC Plan that meets the requirements of Section XVII  
23                of this Order;
- 24          f.    Construction schedule and phasing;
- 25          g.    Preliminary Soil Unit S3 Remedial Action Operation and  
26                Maintenance Plan that includes, at a minimum:

- i. Recommended frequency and methodology of monitoring extraction well flow rates, contaminant concentrations and other parameters necessary to monitor performance and operate the system; and
  - ii. Proposed decision-making process and criteria for operating specific shallow extraction wells;
- h. Construction Quality Assurance Plan (CQAP) which describes the approach to quality assurance during construction activities at Soil Unit S3; and
- i. Site Health and Safety Plan for the Soil Unit S3 Remedy.

#### *BIOREMEDIATION*

8. Within fifteen (15) months after EPA approves the Soil RD Work Plan, Respondents shall submit a Conceptual Design for bioremediation of Soil Unit S1 to EPA for review and approval. For the purposes of the Order, the term Conceptual Design means thirty (30) per cent of complete final design. The Conceptual Design submittal shall include, at a minimum, the following:

- a. Design analysis, including analysis necessary to satisfy substantive state and local permitting requirements if any;
- b. Location of Soil treatment unit and shallow extraction wells;
- c. Major and ancillary equipment list;

- 1       d.    Piping and flow diagrams, including a description of
- 2            the method(s) of nutrient solution application;
- 3       e.    Copies of any necessary easements;
- 4       f.    Contingency plan; and
- 5       g.    Results of treatability studies, including treatment of
- 6            the extracted groundwater and a quantification of air
- 7            emissions from application of the nutrient solution.

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9       9.    Within sixty (60) days after EPA approves the Concep-

10   tual Design for Soil Unit S1, Respondents shall submit a Prefinal

11   Design and specifications to EPA. The Prefinal Design and

12   specifications submittal shall include, at a minimum, the follow-

13   ing:

- 14       a.    Construction drawings;
- 15       b.    Specifications;
- 16       c.    Schedules;
- 17       d.    Cost estimates;
- 18       e.    Draft preliminary operation and maintenance plan; and
- 19       f.    Plan for controlling surface water runoff during RA.

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21       10.   Within sixty (60) days after EPA approves the Prefinal

22   Design for Soil Unit S1, Respondents shall submit a Final Design

23   and specifications to EPA. The Final Design and specifications

24   submittal shall include, at a minimum, the following:

- 25       a.    Design analysis;
- 26       b.    Piping and instrument diagram;

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- c. Specifications for the soil bioremediation system design;
- d. Construction schedule and phasing;
- e. QA/QC Plan that meets the requirements of Section XVII of this Order;
- f. Construction schedule and phasing;
- g. Preliminary Soil Unit S1 Remedial Action Operation and Maintenance Plan that includes, at a minimum:
  - i. Recommended frequency and methodology of monitoring extraction well flow rates, contaminant concentrations in soil and groundwater, and other parameters necessary to monitor performance and operate the system;
  - ii. Recommended frequency for testing of air emissions during startup and routine operations;
- h. Construction Quality Assurance Plan (CQAP) which describes the approach to quality assurance during construction activities at Soil Unit S1; and
- i. Site Health and Safety Plan for the Soil Unit S1 Remedy.

#### *EX SITU WASHING*

11. Within twelve (12) months after EPA approves the Soil RD Work Plan, Respondents shall submit a Conceptual Design for excavation, soil washing and backfill of Soil Unit S2 to EPA for review and approval. For the purposes of the Order, the term

1 Conceptual Design means thirty (30) per cent of complete final  
2 design. The Conceptual Design submittal shall include, at a min-  
3 imum, the following:

- 4 a. Design analysis, including analysis necessary to  
5 satisfy substantive state and local permitting require-  
6 ments if any;
- 7 b. Location of soil washing unit(s);
- 8 c. Major and ancillary equipment list;
- 9 d. Piping and flow diagrams;
- 10 e. Copies of any necessary easements;
- 11 f. Contingency plan;
- 12 g. Results of treatability studies, including treatment of  
13 the washwater and a quantification of air emissions  
14 from this treatment process;
- 15 h. Plan for dust control during operation; and
- 16 i. Plan for mitigating impacts on wet riparian habitats.

17  
18 12. Within sixty (60) days after EPA approves the Concep-  
19 tual Design for Soil Unit S2, Respondents shall submit a Prefinal  
20 Design and specifications to EPA. The Prefinal Design and  
21 specifications submittal shall include, at a minimum, the follow-  
22 ing:

- 23 a. Construction drawings;
- 24 b. Specifications;
- 25 c. Schedules;
- 26 d. Cost estimates;



- 1           e.    Draft preliminary operation and maintenance plan; and
- 2           f.    Plan for controlling surface water runoff during RA.

3

4           13.   Within sixty (60) days after EPA approves the Prefinal  
5   Design for Soil Unit S2, Respondents shall submit a Final Design  
6   and specifications to EPA. The Final Design and specifications  
7   submittal shall include, at a minimum, the following:

8           a.    Design analysis;

9           b.    Piping and instrument diagram;

10          c.    Specifications for the soil washing system design;

11          d.    Construction schedule and phasing;

12          e.    QA/QC Plan that meets the requirements of Section XVII  
13               of this Order;

14          f.    Construction schedule and phasing;

15          g.    Preliminary Soil Unit S2 Remedial Action Operation and  
16               Maintenance Plan that includes, at a minimum:

17           i.    Recommended frequency and methodology of monitoring  
18               contaminant concentrations in soil and washwater, and  
19               other parameters necessary to monitor performance and  
20               operate the system;

21           ii.   Recommended frequency for testing of air emissions  
22               during startup and routine operations;

23          h.    Construction Quality Assurance Plan (CQAP) which  
24               describes the approach to quality assurance during con-  
25               struction activities at Soil Unit S2; and

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- 1           i.    Site Health and Safety Plan for the Soil Unit S2  
2                Remedy.

3  
4   *FIXATION*

5           14.   Within nine (9) months after EPA approves the Soil RD  
6   Work Plan, Respondents shall submit a Conceptual Design for soil  
7   fixation of Soil Unit S4 to EPA for review and approval. For the  
8   purposes of the Order, the term Conceptual Design means thirty  
9   (30) per cent of complete final design. The Conceptual Design  
10   submittal shall include, at a minimum, the following:

- 11          a.   Design analysis, including analysis necessary to  
12                satisfy substantive state and local permitting require-  
13                ments if any;  
14          b.   Location of soil fixation unit(s);  
15          c.   Major and ancillary equipment list;  
16          d.   Piping and flow diagrams;  
17          e.   Copies of any necessary easements;  
18          f.   Contingency plan; and  
19          g.   Results of treatability studies, including i) testing  
20                to determine the RCRA status of soils in Unit S4 and  
21                the applicability of land disposal restrictions, ii)  
22                testing of long-term leachability of the fixated soil;  
23          h.   Plan for dust control during operation; and  
24          i.   Presentation of results of metals background study for  
25                soil and the resulting area and volume of soil with ar-  
26                senic and chromium levels in excess of background.

1  
2        15. Within sixty (60) days after EPA approves the Concep-  
3 tual Design for Soil Unit S4, Respondents shall submit a Prefinal  
4 Design and specifications to EPA. The Prefinal Design and  
5 specifications submittal shall include, at a minimum, the follow-  
6 ing:

- 7        a. Construction drawings;
- 8        b. Specifications;
- 9        c. Schedules;
- 10       d. Cost estimates;
- 11       e. Operation and maintenance plan; and
- 12       f. Plan for controlling surface water runoff during RA.

13  
14       16. Within sixty (60) days after EPA approves the Prefinal  
15 Design for Soil Unit S4, Respondents shall submit a Final Design  
16 and specifications to EPA. The Final Design and specifications  
17 submittal shall include, at a minimum, the following:

- 18       a. Design analysis;
- 19       b. Piping and instrument diagram;
- 20       c. Specifications for the soil fixation system design;
- 21       d. Construction schedule and phasing;
- 22       e. QA/QC Plan that meets the requirements of Section XVII
- 23       of this Order;
- 24       f. Construction schedule and phasing;
- 25       g. Preliminary Soil Unit S4 Remedial Action Operation and
- 26       Maintenance Plan that includes, at a minimum:

1 i. Recommended frequency and methodology of monitoring  
2 long-term stability of the fixated soil and other  
3 parameters necessary to monitor performance and operate  
4 the system;

5 h. Construction Quality Assurance Plan (CQAP) which  
6 describes the approach to quality assurance during con-  
7 struction activities at Soil Unit S4; and

8 i. Site Health and Safety Plan for the Soil Unit S4  
9 Remedy.

10  
11 E. Soil Remedy Remedial Action

12 1. Within forty-five (45) days after EPA approves all  
13 deliverables required as part of the Final Design for each soil  
14 unit, Respondents shall begin construction of the facilities for  
15 the implementation of that soil unit remedy. Respondents shall  
16 not commence remedial action for a soil unit at the Site prior to  
17 EPA's approval of the Final Design for that unit.

18 2. Within ninety (90) days after the start of construction  
19 of a soil unit remedy, Respondents shall commence start-up for  
20 that remedy.

21 3. Within sixty (60) days after the start-up of each soil  
22 unit remedy, Respondents shall submit a final Operation and Main-  
23 tenance Plan for that soil remedy. Within five (5) days after  
24 EPA's approval of the Final Operation and Maintenance Plan,  
25 Respondents shall begin and thereafter maintain routine operation  
26 activities in accordance with that plan.

1           4.    Respondents shall continue operation of each Soil  
2   Remedy until EPA determines that the remedial objectives of the  
3   ROD have been satisfied and the requirements of this Order are  
4   met.

5  
6                   F.   General Requirements For the Work

7           1.    The Respondents shall operate and maintain air and dust  
8   emission controls at all times during operation of any Soil  
9   Remedy and during operation of the groundwater Remedy. Respon-  
10   dents shall receive EPA approval prior to any removal of, or  
11   modification to, any air emissions controls regarding the Work.  
12   The Respondents shall meet, at a minimum, the following require-  
13   ments:

14           (a) Any current (and future revisions to) Butte County Air  
15   Pollution Control District requirements;

16           (b) Any current (and future revisions to) provisions of the  
17   California State Implementation Plan under the Clean Air Act;  
18   and,

19           (c) Any current (and future revisions to) EPA policy for  
20   emissions from remedial action facilities at Superfund sites.

21           2.    The Work performed by Respondents pursuant to this Order  
22   shall, at a minimum, achieve Performance Standards.

23           3.    Notwithstanding any action by EPA, Respondents remains  
24   fully responsible for achieving the Performance Standards. Noth-  
25   ing in this Order, or in EPA's approval of Respondents' submis-  
26   sions under this Order, shall be deemed to constitute a warranty

1 or representation of any kind by EPA that full performance of the  
2 Work will achieve the Performance Standards. Respondents' com-  
3 pliance with such approved documents does not preclude EPA from  
4 seeking additional work to achieve the applicable Performance  
5 Standards.

6 4. All materials removed from the Site shall be disposed of  
7 or treated at a facility approved by EPA and in accordance with  
8 Section 121(d)(3) of CERCLA, 42 U.S.C. Section 9621(d)(3); with  
9 the U.S. EPA "Revised Off-Site Policy," OSWER Directive 9834.11,  
10 November 13, 1987; and with all other applicable Federal, state,  
11 and local requirements.

12 5. Respondents shall, prior to any off-site shipment of  
13 hazardous substances from the Site to an out-of-state waste  
14 management facility, provide written notification of such ship-  
15 ment of hazardous substances to the appropriate state environmen-  
16 tal official in the receiving state and to EPA's RPM. However,  
17 the notification of shipments shall not apply to any off-Site  
18 shipments when the total volume of all shipments from the Site to  
19 the State will not exceed ten (10) cubic yards.

20 6. The notification of any off-site shipments shall be in  
21 writing, and shall include the following information, where  
22 available: (1) the name and location of the facility to which the  
23 hazardous substances are to be shipped; (2) the type and quantity  
24 of the hazardous substances to be shipped; (3) the expected  
25 schedule for the shipment of the hazardous substances; and (4)  
26 the method of transportation. Respondents shall notify the  
27

1 receiving state of major changes in the shipment plan, such as a  
2 decision to ship the hazardous substances to another facility  
3 within the same state, or to a facility in another state.

4 7. The identity of the receiving facility and state shall  
5 be determined by Respondents following the award of the contract  
6 for Remedial Action construction. Respondents shall provide all  
7 relevant information on the off-Site shipments as soon as prac-  
8 ticable after the award of the contract and before the hazardous  
9 substances are actually shipped.

10 8. Within thirty (30) days after Respondents conclude that  
11 the Work required by this Order has been fully performed, Respon-  
12 dents shall so notify EPA and schedule and conduct an inspection  
13 to be attended by Respondents and EPA. The inspection shall be  
14 followed by a written report submitted by Respondents within  
15 thirty (30) days of the inspection by a registered professional  
16 engineer and Respondents' Project Coordinator certifying that the  
17 Work has been completed in full satisfaction of the requirements  
18 of this Order. If, after completion of the inspection and  
19 receipt and review of the written report, EPA determines that the  
20 Work or any portion thereof has not been completed in accordance  
21 with this Order, EPA shall notify Respondents in writing of the  
22 activities that must be undertaken to complete the Work and shall  
23 set forth in the notice a schedule for performance of such ac-  
24 tivities. Respondents shall perform all activities described in  
25 the notice in accordance with the specifications and schedules  
26 established therein. Nothing in this Section shall limit EPA's

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1 right to perform periodic reviews pursuant to Section 121(c) of  
2 CERCLA, 42 U.S.C. Section 9621(c), or to take or require any ac-  
3 tion that in the judgment of EPA is appropriate at the Site, in  
4 accordance with 42 U.S.C. Sections 9604, 9606, or 9607.

#### 6 XI. FAILURE TO ATTAIN PERFORMANCE STANDARDS

7 1. In the event that EPA determines that additional  
8 response activities are necessary to meet applicable Performance  
9 Standards, EPA may notify Respondents that additional response  
10 actions are necessary.

11 2. Unless otherwise stated by EPA, within thirty (30) days  
12 of receipt of notice from EPA that additional response activities  
13 are necessary to meet any applicable Performance Standards,  
14 Respondents shall submit for approval by EPA a work plan for the  
15 additional response activities. The plan shall conform to the  
16 applicable requirements of Sections X, XVII, and XVIII of this  
17 Order. Upon EPA's approval of the plan pursuant to Section XV,  
18 Respondents shall implement the plan for additional response ac-  
19 tivities in accordance with the provisions and schedule contained  
20 therein.

#### 21 XII. EPA PERIODIC REVIEW

22 Under Section 121(c) of CERCLA, 42 U.S.C. Section 9621(c),  
23 and any applicable regulations, EPA may review Site conditions to  
24 assure that the Work performed pursuant to this Order adequately  
25 protects human health and the environment. Until such time as  
26 EPA certifies completion of the Work, Respondents shall conduct



1 the requisite response actions as determined necessary by EPA in  
2 order to permit EPA to conduct the review under Section 121(c) of  
3 CERCLA. As a result of any review performed under this Section,  
4 Respondents may be required to perform additional Work or to  
5 modify Work previously performed.

### 6 7 XIII. ADDITIONAL RESPONSE ACTIONS

8 1. EPA may determine that in addition to the Work iden-  
9 tified in this Order and attachments to this Order, additional  
10 response activities may be necessary to protect human health and  
11 the environment. If EPA determines that additional response  
12 activities are necessary, EPA may require Respondents to submit a  
13 work plan for additional response activities. EPA may also re-  
14 quire Respondents to modify any plan, design, or other  
15 deliverable required by this Order, including any approved  
16 modifications.

17 2. Not later than thirty (30) days after receiving EPA's  
18 notice that additional response activities are required pursuant  
19 to this Section, Respondents shall submit a work plan for the  
20 response activities to EPA for review and approval. Upon ap-  
21 proval by EPA, the work plan is incorporated into this Order as a  
22 requirement of this Order and shall be an enforceable part of  
23 this Order. Upon approval of the work plan by EPA, Respondents  
24 shall implement the work plan according to the standards,  
25 specifications, and schedule in the approved work plan. Respon-

1   dents shall notify EPA in writing of their intent to perform such  
2   additional response activities within seven (7) days after  
3   receipt of EPA's request for additional response activities.  
4

5                   XIV. ENDANGERMENT AND EMERGENCY RESPONSE

6           1.   In the event of any action or occurrence during the  
7   performance of the Work which causes or threatens to cause a  
8   release of a hazardous substance or which may present an im-  
9   mediate threat to public health or welfare or the environment,  
10   Respondents shall immediately take appropriate action to prevent,  
11   abate, or minimize the threat, and shall immediately notify EPA's  
12   Remedial Project Manager (RPM) (See Section XIX). If the RPM is  
13   not available Respondents shall notify the EPA Emergency Response  
14   Unit, Region 9. Respondents shall take such action in consult-  
15   ation with EPA's RPM and in accordance with all applicable provi-  
16   sions of this Order, including but not limited to the Health and  
17   Safety Plan and the Contingency Plan required by Section X of  
18   this Order. In the event that Respondents fails to take ap-  
19   propriate response action as required by this Section, and EPA  
20   takes that action instead, Respondents shall be liable to EPA for  
21   all costs of the response action not inconsistent with the NCP.

22           2.   Nothing in the preceding Paragraph shall be deemed to  
23   limit any authority of the United States to take, direct, or or-  
24   der all appropriate action to protect human health and the en-  
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1 vironment or to prevent, abate, or minimize an actual or  
2 threatened release of hazardous substances on, at, or from the  
3 Site.

4 XV. EPA REVIEW OF SUBMISSIONS

5 1. After review of any deliverable, plan, report or other  
6 item which is required to be submitted for review and approval  
7 pursuant to this Order, EPA may: (a) approve the submission; (b)  
8 approve the submission with modifications by EPA; (c) disapprove  
9 the submission and direct Respondents to re-submit the document  
10 after incorporating EPA's comments; or (d) disapprove the submis-  
11 sion and assume responsibility for performing all or any part of  
12 the response action. As used in this Order, the terms  
13 "approval by EPA", "EPA approval", or a similar term means the  
14 action described in (a) or (b) of this Paragraph.

15 2. In the event of approval or approval with modifications  
16 by EPA, Respondents shall proceed to take any action required by  
17 the plan, report, or other item, as approved or modified by EPA.

18 3. Upon receipt of a notice of disapproval and request for  
19 a modification, Respondents shall, within fourteen (14) days or  
20 such longer time as specified by EPA in its notice of disapproval  
21 and request for modification, correct the deficiencies and resub-  
22 mit the plan, report, or other item for approval. Notwithstand-  
23 ing an approval with modifications by EPA, or a notice of disap-  
24 proval, Respondents shall proceed, at the direction of EPA, to  
25 take any action required by any non-deficient portion of the sub-  
26 mission.

27

1           4.    If any submission is not approved by EPA under  
2   Paragraph 1 (a) or (b) of this Section, Respondents shall be  
3   deemed to be in violation of this Order. An approval by EPA pur-  
4   suant to Paragraph 3 of this Section of an initially disapproved  
5   submission shall cure Respondents' violation.

6           5.    Notwithstanding any approvals which may be granted by  
7   EPA, no warranty of any kind is provided by EPA with regard to  
8   the Work.

9           6.    Any reports, plans, specifications, schedules, appen-  
10   dices, and attachments required or established by this Order are,  
11   upon approval by EPA, incorporated into this Order.

12  
13                               XVI. PROGRESS REPORTS

14           1.    In addition to the other deliverables set forth in this  
15   Order, Respondents shall provide monthly progress reports to EPA  
16   with respect to actions and activities undertaken pursuant to  
17   this Order. The progress reports shall be submitted on or before  
18   the tenth day of each month following the effective date of this  
19   Order. At a minimum these progress reports shall: (1) describe  
20   the actions which have been taken to comply with this Order  
21   during the prior month, including a general description of ac-  
22   tivities commenced or completed during the reporting period; (2)  
23   include all results of sampling and tests and all other data  
24   received by Respondents and not previously submitted to EPA; (3)  
25   describe all Work activities projected to be commenced or com-  
26   pleted during the next reporting period with schedules relating

1 such work to the overall project schedule for RD/RA completion;  
2 and (4) describe all problems encountered and any anticipated  
3 problems, any actual or anticipated delays, and solutions  
4 developed and implemented to address any actual or anticipated  
5 problems or delays.

6 2. Respondents shall also provide semi-annual progress  
7 reports to EPA on the effectiveness of the treatment technologies  
8 in meeting remedial objectives. The semi-annual reports shall be  
9 submitted on or before the fifteenth day after the end of each  
10 six-month period following the effective date of this Order.

11 3. Respondents shall submit other reports to EPA during  
12 the course of Remedial Design and Remedial Action in the time and  
13 manner as EPA may direct.  
14

#### 15 XVII. QUALITY ASSURANCE, SAMPLING AND DATA ANALYSIS

16 1. Respondents shall use the quality assurance, quality  
17 control, and chain of custody procedures described in the "EPA  
18 NEIC Policies and Procedures Manual," May 1978, revised May 1986,  
19 EPA-330/9-78-001-R; the "National Enforcement Investigations Cen-  
20 ter Manual for the Evidence Audit", published in September 1981;  
21 EPA's "Guidelines and Specifications for Preparing Quality As-  
22 surance Program Documentation," June 1, 1987; EPA's "Data Quality  
23 Objective Guidance," (EPA/540/G87/003 and 004); and any amend-  
24 ments to these documents, while conducting all sample collection  
25  
26  
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1 and analysis activities required herein by any plan. To provide  
2 quality assurance and maintain quality control, Respondents  
3 shall:

4 a. Use only laboratories which have a documented Quality  
5 Assurance Program that complies with EPA guidance document QAMS-  
6 005/80.

7 b. Ensure that the laboratory used by the Respondents for  
8 analyses performs according to a method or methods deemed satis-  
9 factory to EPA and submits all protocols to be used for analyses  
10 to EPA at least thirty (30) days before beginning analysis.

11 c. Ensure that EPA personnel and EPA's authorized represen-  
12 tatives are allowed access to the laboratory and personnel used  
13 by the Respondents for analyses.

14 2. Respondents shall notify EPA not less than fourteen (14)  
15 days in advance of any sample collection activity. At the re-  
16 quest of EPA, Respondents shall allow split or duplicate samples  
17 to be taken by EPA or its authorized representatives, of any  
18 samples collected by Respondents with regard to the Site or pur-  
19 suant to the implementation of this Order. In addition, EPA  
20 shall have the right to take any additional samples that EPA  
21 deems necessary.

22

#### 23 XVIII. COMPLIANCE WITH APPLICABLE LAWS

24 1. All Work performed by Respondents pursuant to this Order  
25 shall comply with all applicable or relevant and appropriate re-  
26 quirements (ARARs) identified in the ROD. Within forty-five (45)

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1 days of the effective date of this Order, Respondents shall sub-  
2 mit to EPA a plan detailing how Respondents intend to comply with  
3 each ARAR identified in the ROD.

4 2. All activities by Respondents pursuant to this Order  
5 shall also be performed in accordance with the requirements of  
6 all applicable federal, state, and local laws, regulations, and  
7 permitting requirements; provided, that, as set forth in Section  
8 121(e) of CERCLA and the NCP, no permit shall be required for any  
9 portion of the Work conducted entirely on-Site. Where any por-  
10 tion of the Work requires a federal or state permit or approval,  
11 Respondents shall submit timely applications and take all other  
12 actions necessary to obtain and to comply with all such permits  
13 or approvals.

14 3. This Order is not, and shall not be construed to be, a  
15 permit issued pursuant to any federal or state statute or regula-  
16 tion.

17 4. EPA has determined that the response actions required by  
18 this Order, if performed in accordance with this Order, are con-  
19 sistent with the National Contingency Plan (NCP).

20 5. Nothing in this Order shall be deemed to constitute a  
21 preauthorization of a CERCLA claim within the meaning of Sections  
22 111 or 112 of CERCLA, 42 U.S.C. Section 9611 or 9612, or 40  
23 C.F.R. Section 300.25(d).

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1 XIX. REMEDIAL PROJECT MANAGER

2 1. All communications, whether written or oral, from Respon-  
3 dents to EPA shall be directed to EPA's Remedial Project Manager  
4 ("RPM") with a copy directed to EPA's Assistant Regional Counsel.  
5 Respondents shall submit to EPA three copies of all documents,  
6 including plans, reports, and other correspondence, which are  
7 developed pursuant to this Order, and shall send these documents  
8 by certified mail, return receipt requested. Respondents shall  
9 also simultaneously send a copy of each document to DHS and to  
10 RWQCB. EPA's Remedial Project Manager is:

11  
12 Frederick K. Schauffler, Hazardous Waste Management Divi-  
13 sion, 75 Hawthorne Street (H-7-2), San Francisco, CA 94105,  
14 phone number: (415) 744-2365.

15  
16  
17 EPA's Assistant Regional Counsel is:

18 Greg Ritter, Office of Regional Counsel, 75 Hawthorne St.,  
19 San Francisco, CA 94105, phone number (415) 744-1385.

20  
21 2. EPA may change its Remedial Project Manager or Assis-  
22 tant Regional Counsel.

23 3. EPA's RPM shall have the authority lawfully vested in a  
24 Remedial Project Manager (RPM) and On-Scene Coordinator (OSC) by  
25 the National Contingency Plan, 40 C.F.R. Part 300. EPA's RPM  
26  
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1 shall have authority, consistent with the National Contingency  
2 Plan, to halt any work required by this Order, and to take any  
3 necessary response action.

4 4. Within ten (10) days after the effective date of this  
5 Order, Respondents shall designate a Project Coordinator to rep-  
6 resent it regarding the Work addressed in this Order, and shall  
7 submit the name, address, and telephone number of the Project  
8 Coordinator to EPA for review and approval. Respondents' Project  
9 Coordinator shall be responsible for overseeing Respondents' im-  
10 plementation of this Order and for coordination of communication  
11 between EPA and Respondents. If Respondents wishes to change its  
12 Project Coordinator, Respondents shall provide written notice to  
13 EPA, five (5) days prior to changing the Project Coordinator, of  
14 the name and qualifications of the new Project Coordinator.

15

16 XX. ACCESS TO SITE NOT OWNED BY RESPONDENTS

17 1. If the Site, any off-Site area that is to be used for  
18 access, property where documents required to be prepared or main-  
19 tained by this Order are located, or other property subject to or  
20 affected by the clean up, is owned in whole or in part by parties  
21 other than those bound by this Order, Respondents shall obtain  
22 site access agreements from the present owner(s) within thirty  
23 (30) days of the effective date of this Order. Such agreements  
24 shall provide access for EPA, its contractors and oversight offi-  
25 cials, the State and its contractors, and Respondents or Respon-  
26 dents' authorized representatives and contractors, and such

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1 agreements shall specify that Respondents are not EPA's represen-  
2 tative with respect to liability associated with Site activities.  
3 Copies of such agreements shall be provided to EPA prior to  
4 Respondents' initiation of field activities.

5       2. If access agreements are not obtained within the time  
6 referenced above, Respondents shall immediately notify EPA of  
7 their failure to obtain access. In its sole discretion, EPA may  
8 decide to perform those response actions with EPA contractors at  
9 the property in question or take other action with regard to ac-  
10 cess issues. If EPA decides to perform those tasks or ac-  
11 tivities, Respondents shall perform all other activities not re-  
12 quiring access to that property. Respondents shall integrate the  
13 results of any such tasks undertaken by EPA into its reports and  
14 deliverables.

15

## 16           XXI. SITE ACCESS AND DATA/DOCUMENT AVAILABILITY

17       1. Respondents shall allow EPA and its authorized represen-  
18 tatives and contractors to enter and freely move about the Site  
19 and off-Site areas subject to or affected by the Work under this  
20 Order or where documents required to be prepared or maintained by  
21 this Order are located as deemed necessary by EPA, including such  
22 access for the purposes of inspecting conditions, activities, the  
23 results of activities, records, operating logs, and contracts re-  
24 lated to the Site or Respondents and their representatives or  
25 contractors pursuant to this Order; reviewing the progress of the  
26 Respondents in carrying out the terms of this Order; conducting

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1 tests as EPA or its authorized representatives or contractors  
2 deem necessary; using a camera, sound recording device or other  
3 documentary type equipment; and verifying the data submitted to  
4 EPA by Respondents. Respondents shall allow EPA and its  
5 authorized representatives to enter the Site, to inspect and copy  
6 all records, files, photographs, documents, sampling and monitor-  
7 ing data, and other writings related to work undertaken in carry-  
8 ing out this Order. Nothing herein shall be interpreted as  
9 limiting or affecting EPA's right of entry or inspection  
10 authority under Federal law.

11 2. Under the provisions of Section 104(e) of CERCLA, 42  
12 U.S.C. Section, 9604(e), EPA explicitly reserves the right to ob-  
13 serve the Work of Respondents as it is performed. In addition,  
14 EPA and its authorized representatives reserve the right, at its  
15 request, to take splits of any samples obtained by Respondents or  
16 anyone acting on Respondents' behalf in the implementation of the  
17 Work.

18 3. During the design, construction, and start-up ac-  
19 tivities, Respondents shall notify EPA fourteen (14) days prior  
20 to any sampling conducted by Respondents or anyone acting on  
21 Respondents' behalf. Respondents shall notify EPA fourteen (14)  
22 days prior to the disposal of any such sample, and EPA shall have  
23 an opportunity to take possession of all or a portion of such  
24 sample. Respondents need not provide EPA with 14-day notice of  
25 scheduled sampling relating to the routine operation of the  
26 treatment system. Prior to commencement of the routine operation  
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1 of the treatment system, however, Respondents shall provide EPA  
2 with a schedule for all routine sampling relating to the opera-  
3 tion of the treatment system. Respondents shall notify EPA seven  
4 (7) days in advance of any changes in the routine sampling  
5 schedule. If changes in the routine treatment system sampling  
6 are required as a result of unexpected conditions, Respondents  
7 shall orally notify EPA within forty-eight (48) hours of such oc-  
8 currence and shall provide EPA with the results of analysis of  
9 such sampling when the results become available.

10 4. Respondents may assert a claim of business confiden-  
11 tiality covering part or all of the information submitted to EPA  
12 pursuant to the terms of this Order under 40 C.F.R. section 2.203  
13 only if such claim is not inconsistent with Section 104(e)(7) of  
14 CERCLA, 42 U.S.C. section 9604(e)(7), or other provisions of law.  
15 Any such claim shall be asserted in the manner described by 40  
16 C.F.R. section 2.203(b) and substantiated by Respondents at the  
17 time the claim is made. Information determined by EPA to be con-  
18 fidential will be given the protection specified in 40 C.F.R.  
19 Part 2. If no such claim accompanies the information when it is  
20 submitted to EPA, it may be made available to the public by EPA  
21 or the state without further notice to the Respondents. Respon-  
22 dents shall not assert confidentiality claims with respect to any  
23 sampling or analytical data or reports generated under this Order  
24 or for documents that fall under Section 104(e)(7)(F) of CERCLA,  
25 42 U.S.C. Section 9604(e)(7)(F).

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1           5. Respondents shall maintain an index of documents that  
2 Respondents claim contain confidential business information for  
3 the period during which this Order is in effect. The index shall  
4 contain, for each document, the date, author, addressee, and sub-  
5 ject of the document. Upon written request from EPA, Respondents  
6 shall submit a copy of the index to EPA.

7

8                                   XXII. RECORD PRESERVATION

9           1. Respondents shall provide to EPA, upon request, copies  
10 of any and all documents and information within its possession or  
11 control or in possession or control of its divisions, employees,  
12 agents, accountants, contractors, or attorneys (other than docu-  
13 ments or information privileged under the attorney-client or work  
14 product privileges) relating to activities at the Site or to the  
15 implementation of this Order, including but not limited to sam-  
16 pling, analysis, chain of custody records, manifests, trucking  
17 logs, receipts, reports, sample traffic routing, correspondence,  
18 or other documents or information related to the Work. Respon-  
19 dents shall also make available to EPA for purposes of investiga-  
20 tion, information gathering, or testimony, its employees, agents,  
21 or representatives with knowledge of relevant facts concerning  
22 the performance of the Work.

23           2. For a period of ten (10) years following Respondents'  
24 completion of the Work pursuant to this Order, Respondents shall  
25 preserve and retain all records and documents in its possession  
26 or control or in the possession or control of its divisions,

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1 employees, agents, accountants, contractors or attorneys, that  
2 relate in any manner to the Work, environmental conditions at the  
3 Site, the causes of the environmental conditions at the Site,  
4 Respondents' liability for those environmental conditions,  
5 Respondents' use or disposal of hazardous substances at the Site,  
6 or the implementation of this Order. At the conclusion of this  
7 document retention period, Respondents shall notify EPA at least  
8 ninety (90) days prior to the destruction of any such records or  
9 documents, and upon request by EPA, Respondents shall deliver any  
10 such records or documents to EPA.

11 3. Until ten (10) years after Respondents' completion of  
12 the Work pursuant to this Order, Respondents shall preserve, and  
13 shall instruct their contractors and agents to preserve, all  
14 documents, records, and information of whatever kind, nature or  
15 description relating to the performance of the Work. Upon the  
16 conclusion of this document retention period, Respondents shall  
17 notify EPA at least ninety (90) days prior to the destruction of  
18 any such records, documents or information, and, upon request of  
19 EPA, Respondents shall deliver all such documents, records and  
20 information to EPA.

21 4. Within thirty (30) days after the effective date of  
22 this Order, Respondents shall submit a written certification to  
23 EPA's RPM stating whether or not Respondents have altered, muti-  
24 lated, discarded, disposed of, or destroyed, since notification  
25 of potential liability by the United States or the State, any  
26 records, documents or other information relating to: 1) their  
27

1 potential liability under CERCLA, 2) and their use of or disposal  
2 of hazardous substances with regard to the Site. Respondents  
3 shall not dispose of any such documents after the effective date  
4 of this Order without prior approval by EPA. Respondents shall,  
5 upon EPA's request and at no cost to EPA, deliver the documents  
6 or copies of the documents to EPA.

7

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#### XXIII. DELAY IN PERFORMANCE

9 1. Any delay in performance of this Order that, in EPA's  
10 judgment, is not properly justified by Respondents under the  
11 terms of this Paragraph shall be considered a violation of this  
12 Order. Any delay in performance of this Order shall not affect  
13 Respondents' obligations to fully comply with all terms and con-  
14 ditions of this Order.

15 2. Respondents shall notify EPA of any delay or an-  
16 ticipated delay in performing any requirement of this Order.  
17 Such notification shall be made by telephone to EPA's RPM within  
18 twenty-four (24) hours after Respondents first knew or should  
19 have known that a delay might occur. Respondents shall adopt all  
20 reasonable measures to avoid or minimize any such delay. Within  
21 two (2) business days after notifying EPA by telephone, Respon-  
22 dents shall provide written notification fully describing the na-  
23 ture of the delay, any asserted justification for delay, any  
24 reason why Respondents should not be held strictly accountable  
25 for failing to comply with any relevant requirements of this Or-  
26 der, the measures planned and taken to minimize the delay, and a

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1 schedule for implementing the measures that will be taken to  
2 mitigate the effect of the delay. Increased costs or expenses  
3 associated with implementation of the activities called for in  
4 this Order are not a justification for any delay in performance.  
5

#### 6 XXIV. ASSURANCE OF ABILITY TO COMPLETE WORK

7 1. Respondents shall demonstrate their ability to complete  
8 the Work required by this Order and to pay all claims that arise  
9 from the performance of the Work by obtaining and presenting to  
10 EPA within thirty (30) days after the effective date of this Or-  
11 der, one of the following: (1) a performance bond; (2) a letter  
12 of credit; (3) a guarantee by a third party; or (4) internal  
13 financial information which is sufficient to allow EPA to deter-  
14 mine that Respondents have sufficient assets available to perform  
15 the Work. Respondents shall demonstrate financial assurance in  
16 an amount no less than the estimate of cost for the remedial  
17 design and remedial action contained in the Record of Decision  
18 for the Site. If Respondents seek to demonstrate ability to com-  
19 plete the remedial action by means of internal financial informa-  
20 tion, or by guarantee of a third party, they shall re-submit such  
21 information annually, on the anniversary of the effective date of  
22 this Order. If EPA determines that such financial information is  
23 inadequate, Respondents shall, within thirty (30) days after  
24 receipt of EPA's notice of determination, obtain and present to  
25 EPA for approval one of the other three forms of financial as-  
26 surance listed above.

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1           2.    At least seven (7) days prior to commencing any work at  
2   the Site pursuant to this Order, Respondents shall submit to EPA  
3   a certification that Respondents or their contractors and sub-  
4   contractors have adequate insurance coverage or have indemnifica-  
5   tion for liabilities for injuries or damages to persons or  
6   property which may result from the activities to be conducted by  
7   or on behalf of Respondents pursuant to this Order. Respondents  
8   shall ensure that such insurance or indemnification is maintained  
9   for the duration of the Work required by this Order.

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11                           XXV. UNITED STATES NOT LIABLE

12           The United States, by issuance of this Order, assumes no  
13   liability for any injuries or damages to persons or property  
14   resulting entirely or partially from acts or omissions by Respon-  
15   dents, or their directors, officers, employees, agents, represen-  
16   tatives, successors, assigns, contractors, or consultants in car-  
17   rying out any action or activity pursuant to this Order. Neither  
18   EPA nor the United States may be deemed to be a party to any con-  
19   tract entered into by Respondents or their directors, officers,  
20   employees, agents, successors, assigns, contractors, or consult-  
21   ants in carrying out any action or activity pursuant to this Or-  
22   der. Respondents, their directors, officers, employees, agents,  
23   successors, assigns, contractors, and consultants shall not be  
24   considered agents of the United States.

1                   XXVI. ENFORCEMENT AND RESERVATIONS

2           1.    EPA reserves the right to bring an action against  
3   Respondents under Section 107 of CERCLA, 42 U.S.C. Section 9607,  
4   for recovery of any response costs incurred by the United States  
5   related to the releases or threatened releases at or from the  
6   Site or related to this Order and not reimbursed by Respondents.  
7   This reservation shall include but not be limited to past costs,  
8   direct costs, indirect costs, the costs of any response actions  
9   EPA takes under this Order, the costs of oversight, the costs of  
10  compiling the cost documentation to support oversight cost  
11  demand, as well as accrued interest as provided in Section 107(a)  
12  of CERCLA. In addition, EPA reserves the right to bring an ac-  
13  tion against Respondents for civil penalties under Section 106(b)  
14  of CERCLA, 42 U.S.C. Section 9606(b), and for treble damages un-  
15  der Section 107(c)(3) of CERCLA, 42 U.S.C. Section 9607(c)(3).

16          2.    Notwithstanding any other provision of this Order, at  
17  any time during the response action, EPA may perform its own  
18  studies, complete the response action (or any portion of the  
19  response action) as provided in CERCLA and the NCP, and seek  
20  reimbursement from Respondents for its costs, or seek any other  
21  appropriate relief.

22          3.    Nothing in this Order shall preclude EPA from taking  
23  any additional enforcement actions, including modification of  
24  this Order or issuance of additional Orders, and/or additional  
25  remedial or removal actions as EPA may deem necessary, or from  
26  requiring Respondents in the future to perform additional ac-

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1   tivities pursuant to CERCLA, 42 U.S.C. Section 9606(a), et seq.,  
2   or any other applicable law. Respondents shall be liable as  
3   provided in CERCLA Section 107(a), 42 U.S.C. Section 9607(a), for  
4   the costs of any such additional actions.

5         4.   Notwithstanding any provision of this Order, the United  
6   States retains all of its information gathering, inspection and  
7   enforcement authorities and rights under CERCLA, RCRA and any  
8   other applicable statutes or regulations.

9

10                               XXVII.   CIVIL PENALTIES

11         1.   Respondents shall be subject to civil penalties under  
12   Section 106(b) of CERCLA, 42 U.S.C. Section 9606(b), of not more  
13   than \$25,000 for each day in which Respondents willfully violate,  
14   or fail or refuse to comply with this Order without sufficient  
15   cause. In addition, failure to properly provide response action  
16   under this Order, or any portion hereof, without sufficient  
17   cause, may result in liability under Section 107(c)(3) of CERCLA,  
18   42 U.S.C. Section 9607(c)(3), for punitive damages in an amount  
19   at least equal to, and not more than three times, the amount of  
20   any costs incurred by the Fund as a result of such failure to  
21   take proper action.

22         2.   Nothing in this Order shall constitute or be construed  
23   as a release from any claim, cause of action or demand in law or  
24   equity against any person for any liability it may have arising  
25   out of or relating in any way to the Site.

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1           3.    If a court issues an order that invalidates any provi-  
2   sion of this Order or finds that Respondents have sufficient  
3   cause not to comply with one or more provisions of this Order,  
4   Respondents shall remain bound to comply with all provisions of  
5   this Order not invalidated by the court's order.

6  
7                           XXVIII. ADMINISTRATIVE RECORD

8           Upon request by EPA, Respondents must submit to EPA all  
9   documents related to the selection of the response action for  
10  possible inclusion in the administrative record file.

11  
12                           XXIX. EFFECTIVE DATE AND COMPUTATION OF TIME

13           This Order shall be effective forty-five (45) days after  
14   signature of this Order by the Director, Hazardous Waste Manage-  
15   ment Division. Unless otherwise specified in this Order, all  
16   times for performance of ordered activities shall be calculated  
17   from this effective date.

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19                           XXX. SECTION HEADINGS

20           The section headings set forth in this Order and its Table  
21   of Contents are included for convenience of reference only and  
22   shall be disregarded in the construction and interpretation of  
23   any of the provisions of this Order.

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XXXI. OPPORTUNITY TO CONFER

Respondents may, within the fifteen (15) day period prior to the effective date of this Order, request a conference with EPA's Assistant Regional Counsel to discuss this Order. If requested, the conference shall occur no later than five (5) days after the effective date of this Order. The purpose and scope of the conference shall be limited to issues involving the implementation of the response actions required by this Order and the extent to which Respondents intend to comply with this Order. This conference is not an evidentiary hearing, and does not constitute a proceeding to challenge this Order. It does not give Respondents a right to seek review of this Order, or to seek resolution of potential liability, and no official stenographic record of the conference will be made. At any conference held pursuant to Respondents' request, Respondents may appear in person or by an attorney or other representative. Requests for a conference must be by telephone followed by written confirmation mailed that day to EPA's Assistant Regional Counsel.

So Ordered, this 20 day of September, 1990.

BY: Jeffrey Zelikson  
Jeffrey Zelikson  
Director, Hazardous Waste Management Division  
U.S. Environmental Protection Agency  
Region 9

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ATTACHMENT 1

KOPPERS SUPERFUND SITE  
OROVILLE, CALIFORNIA

OPERABLE UNIT RECORD OF DECISION

United States Environmental Protection Agency  
Region IX - San Francisco, California  
September, 1989